A2500-2

# Paper Paperboard & Wood Pulp

MONTHLY STATISTICAL SUMMARY - Vol.68 No.1 JANUARY 1990

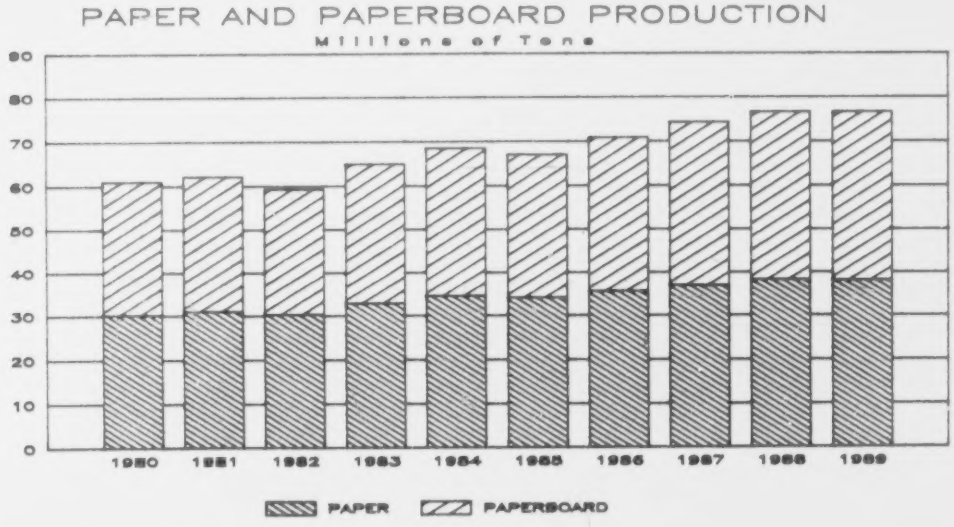
## PAPER AND PAPERBOARD PRODUCTION IN 1989

Even in the presence of slower real gross national product growth in the fourth quarter of 1989, the paper and paperboard industry closed out the year on a positive note. Seasonally adjusted fourth quarter production of paper and board edged above its third quarter rate to a high for the year, reflecting a rally in paper production. By a margin of 21,000 tons, 1989 was the fourth consecutive record year for production. The decade ended with the average annual growth of paper production at 2.5% and paperboard at 2.1%. The 1989 paper and paperboard production total of 76,625,000 tons capped a decade-long increase of 15.6 million tons. This growth pattern is pictured in the chart below.

**PAPER:** The grades primarily responsible for the fourth quarter rally were newsprint, coated papers, and tissue papers.

The total amount of newsprint manufactured in 1989 was 6,088,000 tons, yielding an operating rate of nearly 97%. In addition, 7.7 million tons were imported, accounting for 60% of domestic consumption.

Coated paper production, which was 6.6% behind its year-ago volume as of mid-year, staged an impressive rally in the final six months to cut its deficit to only 2.2% at year-end. Despite this improved performance, the full year operating rate fell to 88.4% from 94.6% in 1988. Imports of coated papers comprised 10% of domestic new supply in 1989 and 1988, compared with just 4% a decade ago.

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Record production of uncoated groundwood papers eased the U.S.'s dependence on foreign countries to help meet consumption requirements. Imports of these papers accounted for 44% of new supply in 1989, compared with 47% in 1987 and 1988. The capacity utilization rate was 95%, up from 93.6% in 1988.

**PAPERBOARD:** Among the major grades of paperboard, unbleached kraft production, at 19.5 million tons, advanced 1.8% from its previous high in 1988. Semichemical and bleached kraft paperboard both posted marginal gains in 1989, while recycled production was off 2.3%. If it weren't for a 202,000-ton upward revision in the 1988 data, recycled paperboard production in 1989 would have matched its 1988 total.

Boxboard production grew 1.3% last year, reflecting continuing growth in domestic and export demand. The major boxboard sectors, folding boxboard, milk carton and food service, and set-up, all registered increases in 1989. Demand for bleached and recycled folding boxboard has held steady since mid-1987, while unbleached kraft folding boxboard has generally followed a rising trend and in fact, posted a 6.8% gain in 1989.

Containerboard production for domestic use, at a new high of 23.7 millon tons, was 0.8% above its year ago level. This was consistent with a 1.2% rise in shipments of fiber boxes which brought this total to a record 312 billion square feet. At year-end, inventories were at the lower end of the 2.45 - 2.71 million ton range observed throughout the year.

**FIBROUS MATERIALS**

U.S. shipments of chemical paper grade market wood pulp in December, at 625,000 short tons, surpassed production by 104,000 tons. Producers reached into inventories which had increased from 13 days of supply at the end of March to 25 days as of November 30. At year-end producers had 19 days of supply on hand.

December's capacity utilization rate of 81% was a monthly low for 1989. The full year average of 95% was down from the 1988 average of 97%. Despite this, U.S. production of chemical paper grade market pulp set a new annual high in 1989. Preliminary data indicates that 1989 production, at 7,231,000 tons, was 0.4% above 1988's high.

On the international scene, the U.S. has strengthened its position as an important supplier of chemical paper grade market pulp. In 1989, Japan and Western Europe increased their reliance on the U.S. for these grades of pulp. The U.S. exported 16% more pulp to Japan in 1989 and 5% more to Western Europe than in 1988. In the past decade, shipments to Japan quadrupled, to 1.1 million

# PAPER AND PAPERBOARD STATISTICS

## PRODUCTION, SHIPMENTS AND ORDERS
(Thousands of Short Tons)

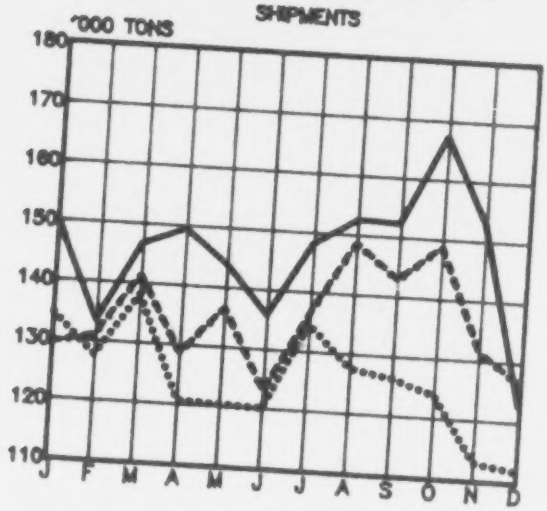
| | YEAR 1987 | YEAR 1988 | SEPTEMBER 1989 | OCTOBER 1989 | NOVEMBER 1989 (R) | DECEMBER 1989 (P) | Annual Rate Y-T-D 1989 | % Change From same Period Last Year |
|---|---|---|---|---|---|---|---|---|
| PAPER | | | | | | | | |
| Newsprint - Production | 5,842 | 5,982 | 517 | 526 | 516 | 532 | 6,088 | 1.8 |
| - Shipments | 5,854 | 5,969 | 518 | 526 | 530 | 529 | 6,079 | 1.8 |
| Printing & Writing Sum | 20,778 | 21,793 | 1,773 | 1,917 | 1,812 | 1,679 | 21,484 | -1.4 |
| Groundwood Paper - Shipments | 1,498 | 1,624 | 152 | 167 | 153 | 123 | 1,754 | 8.0 |
| - New Orders | 1,542 | 1,654 | 177 | 152 | 129 | 150 | 1,784 | 7.9 |
| -Unfilled Orders | 166 | 208 | 238 | 212 | 196 | 211 | 211 | 1.7 |
| Coated Papers - Shipments | 6,860 | 7,359 | 611 | 653 | 616 | 585 | 7,194 | -2.2 |
| - New Orders | 7,066 | 7,412 | 633 | 667 | 552 | 585 | 7,262 | -2.0 |
| - Unfilled Orders | 708 | 751 | 876 | 861 | 832 | 822 | 822 | 9.5 |
| Unctd Free Sheet - Shipments | 10,966 | 11,277 | 885 | 968 | 930 | 864 | 11,043 | -2.1 |
| - New Orders | 11,173 | 11,298 | 950 | 995 | 967 | 914 | 11,132 | -1.5 |
| - Unfilled Orders | 772 | 790 | 701 | 696 | 747 | 784 | 784 | -0.7 |
| Thin Papers - Shipments | 240 | 217 | 16 | 15 | 13 | 14 | 189 | -12.8 |
| Cotton Fiber Paper - Shipments | 163 | 167 | 13 | 14 | 12 | 12 | 157 | -6.3 |
| Bleached Bristols - Production | 1,052 | 1,150 | 95 | 100 | 89 | 82 | 1,148 | -0.1 |
| Tissue Paper - Production | 5,301 | 5,476 | 473 | 489 | 474 | 460 | 5,636 | 2.9 |
| Total Packaging & Other Paper | 4,955 | 5,047 | 406 | 437 | 429 | 402 | 4,925 | -2.4 |
| Unbl. Kraft Paper - Shipments RS | 2,840 | 2,800 | 240 | 239 | 241 | 216 | 2,681 | -4.2 |
| Other Paper - Production RS | 2,115 | 2,247 | 195 | 198 | 188 | 186 | 2,243 | -0.2 |
| TOTAL PAPER-Production-Unadj. | 36,876 | 38,298 | 3,168 | 3,368 | 3,230 | 3,073 | 38,133 | -0.4 |
| -Production-S.A. | | | 3,167 | 3,258 | 3,243 | 3,086 | | |
| PAPERBOARD - PRODUCTION | | | | | | | | |
| Solid Wood Pulp Furnish | 28,859 | 29,315 | 2,408 | 2,469 | 2,414 | 2,413 | 29,706 | 1.3 |
| Total Unbl. Kraft Paperboard | 18,898 | 19,140 | 1,596 | 1,619 | 1,580 | 1,567 | 19,493 | 1.8 |
| Unbl. Kraft Linerboard (1) | 17,683 | 17,897 | 1,495 | 1,512 | 1,486 | 1,475 | 18,199 | 1.7 |
| Production for Export | 2,303 | 2,296 | 174 | 202 | 187 | 224 | 2,373 | 3.4 |
| Other Unbl. Kraft Paperboard | 1,215 | 1,244 | 101 | 107 | 94 | 92 | 1,293 | 4.0 |
| Semichemical Paperboard | 5,536 | 5,664 | 461 | 472 | 455 | 479 | 5,681 | 0.3 |
| Production for Export | 193 | 136 | 8 | 14 | 9 | 12 | 137 | 0.2 |
| Solid Bleached Paperboard | 4,406 | 4,511 | 351 | 378 | 379 | 368 | 4,532 | 0.5 |
| Production for Export | 619 | 628 | 51 | 65 | 66 | 60 | 683 | 8.9 |
| Recycled Paperboard | 8,601 | 8,991 | 708 | 779 | 728 | 653 | 8,786 | -2.3 |
| Production for Export | 75 | 72 | 1 | 3 | 4 | 3 | 34 | -52.7 |
| TOTAL PAPERBOARD-Prod.-Unadj. | 37,442 | 38,306 | 3,116 | 3,247 | 3,142 | 3,066 | 38,492 | 0.5 |
| - Containerboard Prod.(Dom. Use) | 23,025 | 23,563 | 1,966 | 1,970 | 1,941 | 1,907 | 23,746 | 0.8 |
| - Boxboard Prod.(Dom. Use) | 6,969 | 7,041 | 562 | 591 | 574 | 530 | 7,085 | 0.6 |
| - All Other P'bd Prod.(D.U.) | 4,262 | 4,571 | 353 | 402 | 361 | 330 | 4,433 | -3.0 |
| - Total Paperbd Prod. for Export | 3,190 | 3,132 | 235 | 284 | 265 | 300 | 3,227 | 3.0 |
| TOTAL PAPERBOARD PROD.- S.A. | | | 3,170 | 3,228 | 3,228 | 3,133 | 38,450 | 0.5 |
| TOTAL PAPER AND PAPERBOARD | | | | | | | | |
| Production - Unadj. | 74,318 | 76,604 | 6,284 | 6,616 | 6,372 | 6,140 | 76,625 | 0.0 |
| Production - S.A. | | | 6,337 | 6,486 | 6,471 | 6,218 | | |

(1) Includes all exports of kraft paperboard.

R - Revised P - Preliminary S.A. - Seasonally Adjusted
RS - Revised Series

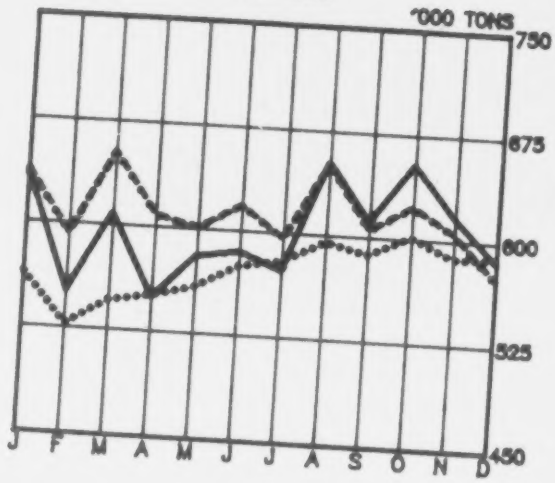
GROUNDWOOD PAPER, UNCOATED

SHIPMENTS



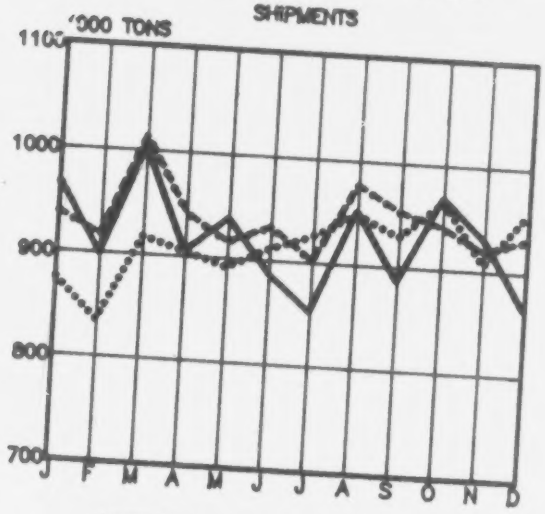

COATED PAPER

SHIPMENTS



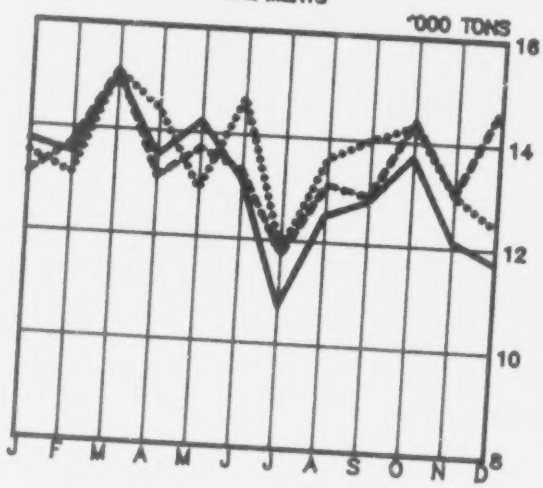

UNCOATED FREE SHEET PAPERS

SHIPMENTS



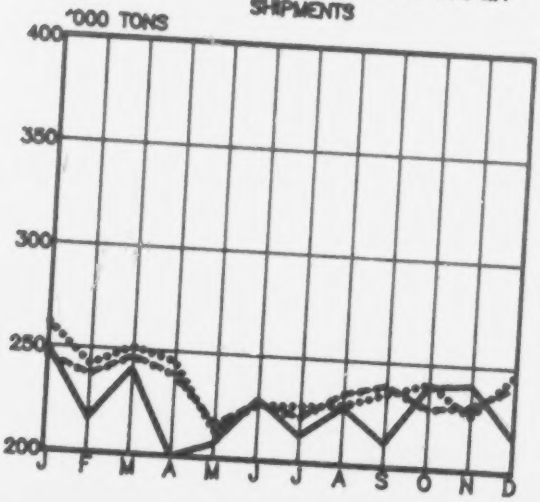

COTTON FIBER PAPER

SHIPMENTS



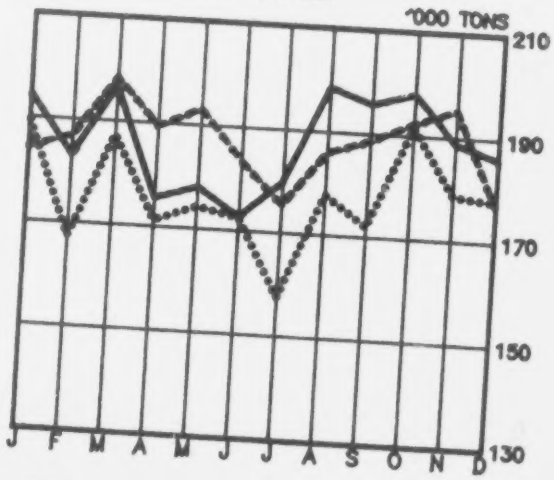

UNBLEACHED KRAFT PACKAGING AND INDUSTRIAL CONVERTING PAPER

SHIPMENTS




OTHER PAPER

PRODUCTION




1987 ••••••••  1988 - - - - -  1989 ——

# WOOD PULP STATISTICS
(Thousands of Tons)

| | YEAR 1987 | YEAR 1988 | AUGUST 1989 | SEPTEMBER 1989 | OCTOBER 1989 | NOVEMBER 1989 | Annual Rate Y-T-D 1989 | % Change from same Period Last Year |
|---|---|---|---|---|---|---|---|---|
| | | | | | R | P | | |
| **TOTAL WOOD PULP** | | | | | | | | |
| Total Wood Pulp - Production | 59,552 | 61,161 | 5,301 | 5,063 | 5,295 | 5,022 | 62,242 | 2.1 |
| - Imports | 4,850 | 5,038 A | 471 | 428 | 442 | 388 | 5,025 | -0.4 |
| - Exports | 4,889 | 5,528 | 534 | 548 | 502 | 347 | 6,160 | 13.9 |
| - New Supply | 59,513 | 60,671 | 5,238 | 4,944 | 5,234 | 5,063 | 61,107 | 0.8 |
| Dissolving Pulp - Production | 1,312 | 1,367 | 108 | 128 | 109 | 132 | 1,429 | 5.6 |
| - Imports | 198 | 248 | 28 | 27 | 34 | 11 | 287 | 17.9 |
| - Exports | 752 | 865 | 81 | 61 | 67 | 53 | 814 | -3.9 |
| - New Supply | 757 | 751 | 55 | 95 | 76 | 90 | 902 | 20.3 |
| Paper Grades - Production | 48,293 | 49,493 | 4,322 | 4,069 | 4,277 | 4,033 | 50,425 | 2.3 |
| Chemical Pulp - Imports | 4,456 | 4,419 A | 400 | 365 | 378 | 338 | 4,393 | -0.7 |
| - Exports | 4,111 | 4,612 | 441 | 484 | 432 | 290 | 5,275 | 17.0 |
| - New Supply | 48,637 | 49,300 | 4,281 | 3,951 | 4,223 | 4,081 | 49,543 | 0.7 |
| Groundwood and - Production | 5,702 | 5,943 | 511 | 505 | 530 | 505 | 6,010 | 0.9 |
| Thermo-Mech. - Imports | 197 | 371 A | 43 | 36 | 30 | 39 | 345 | -8.7 |
| - Exports | 26 | 51 | 11 | 3 | 3 | 3 | 71 | 43.8 |
| - New Supply | 5,872 | 6,263 | 543 | 538 | 556 | 541 | 6,285 | 0.0 |
| Semi-Chemical - Production | 4,246 | 4,358 | 359 | 361 | 379 | 351 | 4,378 | 0.6 |
| - Imports | | | | | | | | |
| - Exports | | | | | | | | |
| - New Supply | 4,246 | 4,358 | 359 | 361 | 379 | 351 | 4,378 | 0.6 |
| **MARKET WOOD PULP** | | | | | | | | |
| Total Market - Production | 8,114 | 8,565 | 757 | 712 | 682 | 690 | 8,743 | 2.8 |
| Wood Pulp - Imports | 3,235 | 3,471 | 261 | 292 | 290 | 251 | 3,336 | -3.6 |
| - Exports | 4,820 | 5,071 | 487 | 439 | 396 | 318 | 5,245 | 5.4 |
| - New Supply | 6,529 | 6,966 | 531 | 565 | 576 | 623 | 6,834 | -2.2 |
| Dissolving Pulp - Production | 1,308 | 1,365 | 108 | 127 | 109 | 132 | 1,423 | 5.4 |
| - Imports | 154 | 206 | 23 | 21 | 24 | 8 | 211 | 4.9 |
| - Exports | 775 | 798 | 75 | 76 | 63 | 48 | 795 | 2.7 |
| - New Supply | 687 | 774 | 56 | 73 | 70 | 92 | 839 | 7.9 |
| Paper Grades - Production | 6,806 | 7,200 | 649 | 585 | 573 | 557 | 7,320 | 2.4 |
| Chemical Pulp - Imports | 2,975 | 3,126 | 236 | 265 | 264 | 233 | 3,066 | -1.5 |
| - Exports | 4,045 | 4,273 | 412 | 363 | 333 | 269 | 4,450 | 5.9 |
| - New Supply | 5,736 | 6,052 | 472 | 487 | 504 | 521 | 5,935 | -2.1 |
| Groundwood Pulp - Production | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| and All Other - Imports RS | 106 | 139 | 3 | 5 | 2 | 10 | 60 | -60.0 |
| - Exports | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| - New Supply | 106 | 139 | 3 | 5 | 2 | 10 | 60 | -60.0 |

SOURCES: Total Wood Pulp Production & Market Wood Pulp Production, Imports & Exports - Pulp Division, Pulp, Materials and Technology Group, API. Total Wood Pulp Imports & Exports - Department of Commerce.
NOTE: A - API shifted Import data from January 1989 to December 1988 to compensate for misallocation of reported data.

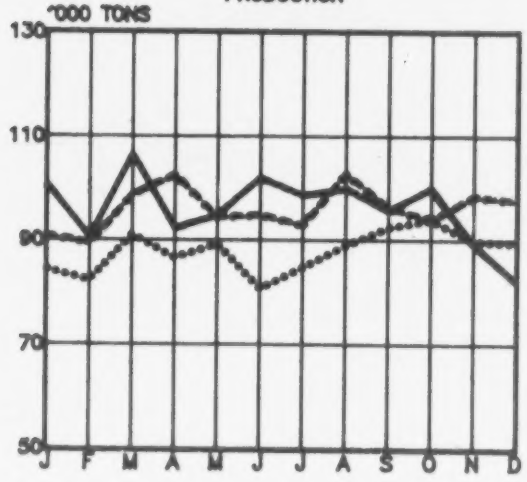
# FIBROUS RAW MATERIALS
(Thousands of tons)

| | YEAR 1987 | YEAR 1988 | AUGUST 1989 | SEPTEMBER 1989 | OCTOBER 1989 | NOVEMBER 1989 | Annual Rate Y-T-D 1989 | % Change from same Period Last Year |
|---|---|---|---|---|---|---|---|---|
| | | | | | R | P | | |
| **CONSUMPTION AT PAPER & PAPERBOARD MILLS** | | | | | | | | |
| Total | 77,468 | 79,707 | 6,965 | 6,663 | 7,063 | 6,656 | 81,497 | 2.4 |
| Total Wood Pulp | 59,474 | 60,847 | 5,239 | 4,997 | 5,311 | 4,981 | 61,465 | 1.3 |
| Waste Paper | 17,993 | 18,860 | 1,726 | 1,665 | 1,752 | 1,676 | 20,032 | 5.9 |
| **INVENTORIES** | | | | | | | | |
| Chemical Paper Grade Market Pulp | | | | | | | | |
| Producers' Own-Use Inventories | 170 | 172 | 193 | 205 | 187 | 187 | 187 | 10.3 |
| Producers' Market Inventories | 224 | 261 | 353 | 364 | 382 | 445 | 445 | 47.8 |
| Consumers' Purchased Inventories # | 529 | 622 | 591 | 590 | 551 | 529 | 529 | -10.4 |
| Waste Paper at Paper & Bd. Mills | 902 | 1,035 | 1,096 | 1,079 | 1,078 | 1,109 | 1,109 | 10.1 |
| Days of Supply at Pulp Mills of Chemical Paper Grade Mkt Pulp | 12 | 14 | 17 | 19 | 20 | 25 | 25 | 47.1 |

SOURCES: Wood Pulp Data, Pulp Division, Pulp, Materials and Technology Group, API. Waste Paper Data, Paper Recycling Committee, API. # Includes all grades of wood pulp.
P - Preliminary; R - Revised; (0) - Indicates zero to five-hundred short tons RS - 1988 Revised Series

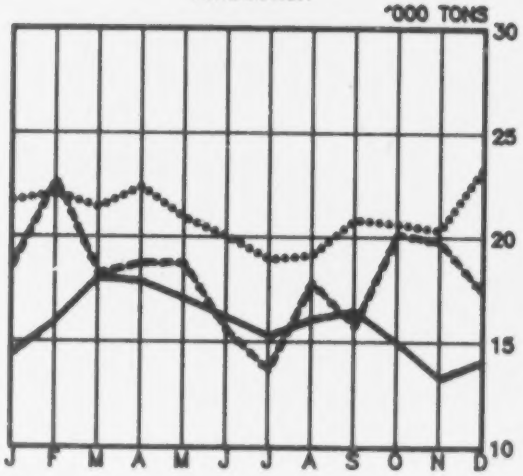
BLEACHED BRISTOLS

PRODUCTION



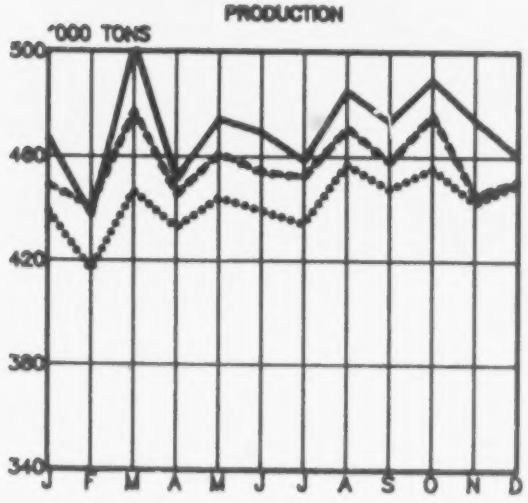

THIN PAPER

PRODUCTION



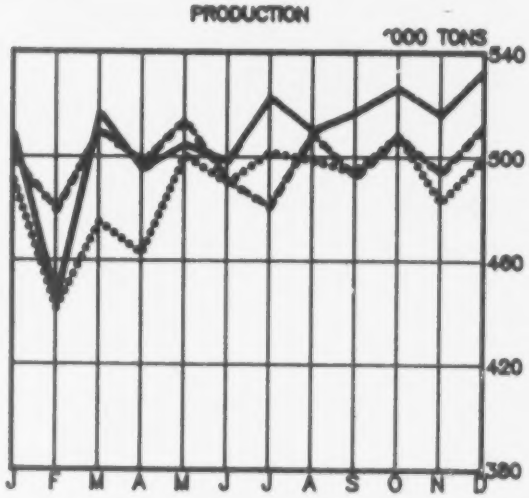

TISSUE PAPER

PRODUCTION



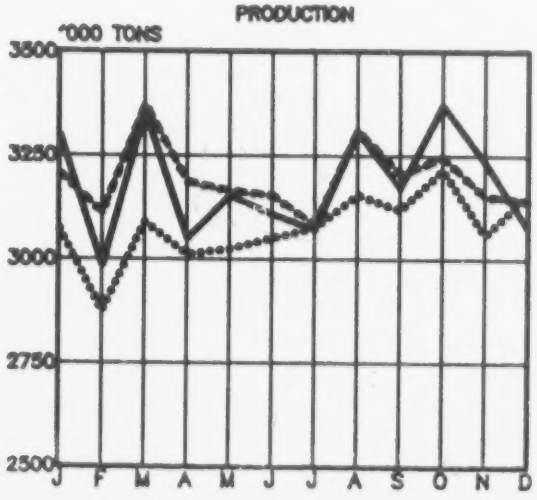

NEWSPRINT

PRODUCTION



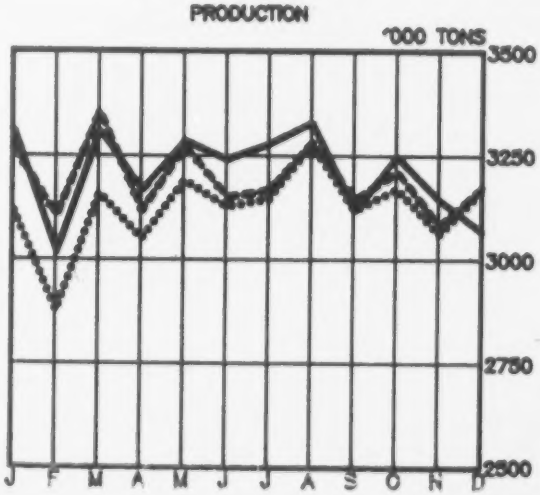

TOTAL PAPER

PRODUCTION




TOTAL PAPERBOARD

PRODUCTION




1987 ••••••••• 1988 - - - - - 1989 ——

## F I B R O U S  R A W  M A T E R I A L S
(Thousands of Standard (128 cubic foot) Cords)

| | | YEAR 1987 | YEAR 1988 | AUGUST 1989 | SEPTEMBER 1989 | OCTOBER 1989 | NOVEMBER 1989 | Annual Rate Y-T-D 1989 | % Change From Same Period Last Year |
|---|---|---|---|---|---|---|---|---|---|
| PULPWOOD | | | | | | | | | |
| Total U.S. | - Total Receipts | 94,312 | 95,537 | 8,946 | 8,491 | 8,876 | 8,202 | 99,747 | 4.9 |
| | - Total Consumpt | 93,946 | 95,497 | 8,498 | 8,167 | 8,331 | 8,070 | 98,703 | 3.6 |
| | - Residues * | 32,899 | 33,186 | 2,983 | 2,845 | 3,125 | 2,806 | 34,616 | 4.5 |
| | - Inventories | 5,096 | 4,888 | 4,415 | 4,891 | 5,405 | 5,581 | 5,581 | 16.5 |
| So. Atlantic | - Total Receipts | 31,147 | 31,582 | 2,778 | 2,804 | 2,801 | 2,609 | 32,191 | 2.5 |
| | - Total Consumpt | 30,945 | 31,567 | 2,684 | 2,782 | 2,737 | 2,529 | 32,350 | 2.8 |
| | - Residues * | 9,553 | 9,897 | 849 | 821 | 887 | 793 | 9,958 | 1.3 |
| | - Inventories | 1,211 | 1,200 | 889 | 956 | 956 | 1,037 | 1,037 | -11.8 |
| Northeast | - Total Receipts | 6,941 | 7,187 | 628 | 585 | 687 | 558 | 7,250 | 2.3 |
| | - Total Consumpt | 7,109 | 7,216 | 598 | 583 | 603 | 563 | 7,128 | -1.2 |
| | - Residues * | 1,543 | 1,664 | 146 | 136 | 132 | 118 | 1,600 | -3.0 |
| | - Inventories | 594 | 572 | 453 | 444 | 499 | 475 | 475 | -6.1 |
| South Central | - Total Receipts | 33,650 | 33,751 | 3,355 | 3,119 | 3,286 | 3,097 | 36,057 | 7.5 |
| | - Total Consumpt | 33,059 | 33,646 | 3,212 | 3,020 | 3,006 | 3,068 | 35,891 | 7.5 |
| | - Residues * | 9,992 | 9,890 | 936 | 884 | 988 | 946 | 10,576 | 7.1 |
| | - Inventories | 1,294 | 1,160 | 558 | 1,055 | 1,398 | 1,434 | 1,434 | 19.9 |
| North Central | - Total Receipts | 6,552 | 6,865 | 640 | 602 | 624 | 568 | 7,024 | 2.9 |
| | - Total Consumpt | 6,764 | 6,929 | 594 | 531 | 592 | 602 | 6,984 | 0.5 |
| | - Residues * | 1,263 | 1,334 | 106 | 116 | 132 | 138 | 1,414 | 5.2 |
| | - Inventories | 830 | 839 | 829 | 899 | 945 | 909 | 909 | 18.4 |
| West | - Total Receipts | 16,022 | 16,152 | 1,545 | 1,381 | 1,478 | 1,370 | 17,225 | 6.2 |
| | - Total Consumpt | 16,099 | 16,139 | 1,410 | 1,251 | 1,393 | 1,308 | 16,351 | 1.0 |
| | - Residues * | 10,548 | 10,401 | 946 | 898 | 986 | 811 | 11,067 | 6.0 |
| | - Inventories | 1,167 | 1,117 | 1,286 | 1,537 | 1,607 | 1,726 | 1,726 | 50.9 |

* - Consumption of Residues in Cord Equivalents. SOURCE: American Pulpwood Association

## U N I T E D  S T A T E S  T R A D E  W I T H  C A N A D A

IMPORTS FROM CANADA *

| | | YEAR 1988 Tons | YEAR 1988 ($000's) | OCTOBER 1989 Tons | OCTOBER 1989 ($000) | NOVEMBER 1989 Tons | NOVEMBER 1989 ($000) | Annual Rate Y-T-D 1989 Tons | % Change From same Period Last Year |
|---|---|---|---|---|---|---|---|---|---|
| Pulpwood, Roundwood (in cords of 128 cubic feet) | | 39,337 | 4,195 | 10,147 | 160 | 52,191 | 1,028 | 205,646 | 410.0 |
| Pulpwood chips | | 876,038 | 35,184 | 50,328 | 1,793 | 55,554 | 1,530 | 820,252 | -3.9 |
| Wood Pulp, Total | A | 4,340,245 | 2,282,329 | 386,880 | 232,756 | 354,385 | 213,996 | 4,384,939 | 0.8 |
| Waste Fibrous Materials, Total | | 227,004 | 48,450 | 12,267 | 2,407 | 11,497 | 2,406 | 165,706 | -29.3 |
| Paper, Board & Products, Total | A | 10,521,785 | 5,734,562 | 982,626 | 546,578 | 937,708 | 519,955 | 11,022,233 | 2.6 |
| Paper, Paperboard, Wet Machine Bd. & Constr. Paper & Bd. | A | 10,390,709 | 5,493,176 | 968,723 | 517,649 | 926,405 | 493,210 | 10,836,735 | 2.1 |
| Paper, Paperboard & Products | A | 10,307,877 | 5,668,763 | 968,695 | 543,177 | 924,094 | 516,342 | 10,859,914 | 3.2 |
| Paper & Paperboard, Only | A | 10,176,801 | 5,427,377 | 954,792 | 514,248 | 912,791 | 489,597 | 10,674,417 | 2.8 |
| Paper, Total | A | 9,911,685 | 5,330,887 | 917,288 | 500,258 | 879,148 | 476,816 | 10,253,669 | 1.4 |
| Newsprint | R A | 8,284,709 | 4,320,023 | 741,691 | 382,123 | 708,781 | 361,694 | 8,354,622 | N.C. |
| Printing, Writing & Rel. Pap. | RSA | 1,346,435 | 842,397 | 145,687 | 96,999 | 138,914 | 92,797 | 1,577,097 | 16.1 |
| Pack. & Ind. Conv. Paper | | 227,493 | 120,765 | 19,604 | 10,555 | 20,191 | 10,944 | 216,420 | -8.3 |
| Special Industrial Paper | | 4,767 | 9,106 | 5,485 | 6,339 | 5,436 | 6,241 | 48,554 | 903.0 |
| Tissue Paper | | 48,281 | 38,596 | 4,821 | 4,242 | 5,826 | 5,140 | 56,975 | 14.0 |
| Paperboard, Total | | 265,116 | 96,490 | 37,504 | 13,990 | 33,643 | 12,781 | 420,748 | 54.8 |
| Convtd Paper&Paperbd Products | RS | 131,076 | 241,387 | 13,903 | 28,929 | 11,303 | 26,745 | 185,498 | 38.8 |
| Wet Machine Board | | 2,939 | 2,120 | 3 | 4 | 62 | 52 | 295 | -90.3 |
| Construction Paper & Board | | 210,970 | 63,679 | 13,928 | 3,397 | 13,552 | 3,561 | 162,023 | -26.9 |

NOTE: A - API shifted Import data from January 1989 to December 1988 to compensate for misallocation of reported data.

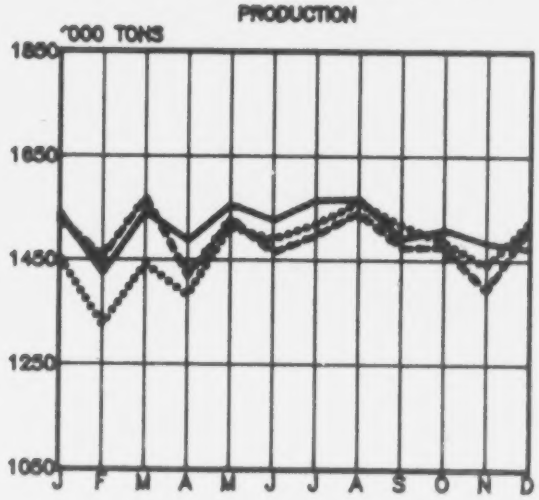
EXPORTS TO CANADA *

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pulpwood, Roundwood (in cords of 128 cubic feet) | | 14,180 | 836 | 2,226 | 28 | 996 | 92 | 68,609 | 344.6 |
| Pulpwood chips | | 33,040 | 1,739 | 1,775 | 48 | 1,110 | 51 | 30,212 | -15.1 |
| Wood Pulp, Total | | 280,074 | 101,214 | 35,462 | 14,100 | 13,346 | 5,568 | 345,930 | 24.5 |
| Cotton Pulp & Other Pulp | | 84,891 | 24,062 | 612 | 398 | 508 | 382 | 6,210 | -92.0 |
| Waste Paper | | 131,999 | 38,199 | 22,062 | 3,446 | 11,468 | 1,649 | 284,596 | -13.5 |
| Paper, Board & Products, Total | | 1,050,117 | 715,960 | 117,391 | 77,527 | 86,335 | 54,000 | 1,087,312 | 2.0 |
| Paper, Paperboard, Wet Machine Bd. & Constr. Paper & Bd. | | 773,973 | 464,416 | 84,542 | 50,957 | 61,471 | 36,029 | 756,440 | -4.0 |
| Paper, Paperboard & Products | | 1,013,157 | 699,127 | 115,144 | 76,748 | 85,691 | 53,722 | 1,066,700 | 3.6 |
| Paper & Paperboard, Only | | 737,013 | 447,583 | 82,294 | 50,178 | 60,826 | 35,751 | 735,827 | -2.2 |
| Paper, Total | | 340,156 | 293,175 | 36,489 | 32,856 | 35,718 | 26,859 | 374,447 | 7.9 |
| Newsprint | | 5,806 | 5,304 | 654 | 324 | 349 | 222 | 8,390 | 40.3 |
| Printing, Writing & Rel. Pap. | R | 166,667 | 160,007 | 21,999 | 22,077 | 23,123 | 19,057 | 228,709 | 34.7 |
| Pack. & Ind. Conv. Paper | | 41,718 | 29,572 | 7,726 | 3,362 | 7,716 | 2,934 | 63,959 | 58.2 |
| Special Industrial Paper | | 118,806 | 90,276 | 5,520 | 6,396 | 4,231 | 4,104 | 63,459 | -47.5 |
| Tissue Paper | | 7,160 | 8,016 | 591 | 696 | 298 | 541 | 6,930 | -4.6 |
| Paperboard, Total | | 396,857 | 154,408 | 45,805 | 17,323 | 25,108 | 8,892 | 364,381 | -10.6 |
| Convtd Paper&Paperbd Products | R | 276,145 | 251,544 | 32,849 | 26,569 | 24,865 | 17,971 | 330,872 | 19.1 |
| Wet Machine Board | | 6,527 | 2,590 | 55 | 41 | 7 | 3 | 1,743 | -72.7 |
| Construction Paper & Board | | 30,433 | 14,243 | 2,193 | 738 | 637 | 276 | 18,869 | -36.9 |

SOURCE: Bureau of Census, Department of Commerce . E - Estimate of tonnage based on square foot data RS - Revised Series
* 1989 Import/Export codes revised to Harmonized System. Detail may not always be comparable to 1988. NC - Not Comparable
R - API Revised grade distribution for 1989.

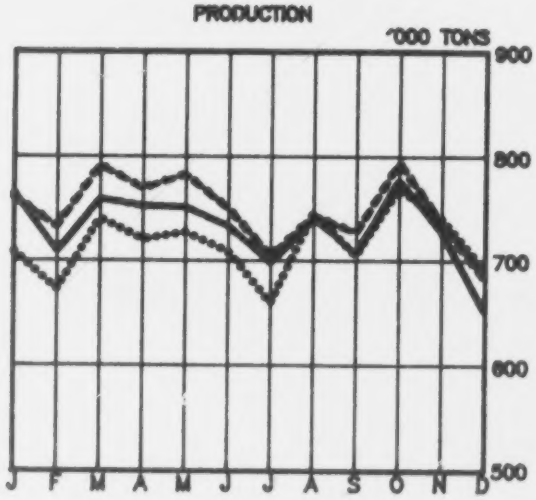
UNBLEACHED KRAFT LINERBOARD

PRODUCTION



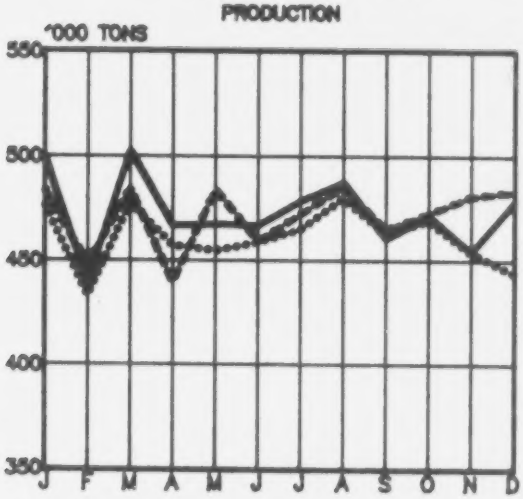

RECYCLED PAPERBOARD

PRODUCTION



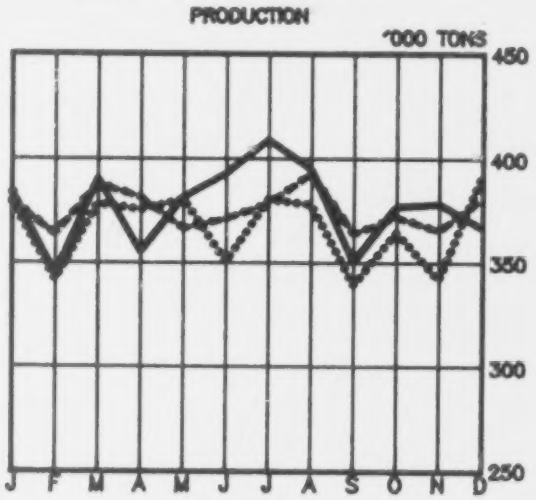

SEMICHEMICAL PAPERBOARD

PRODUCTION



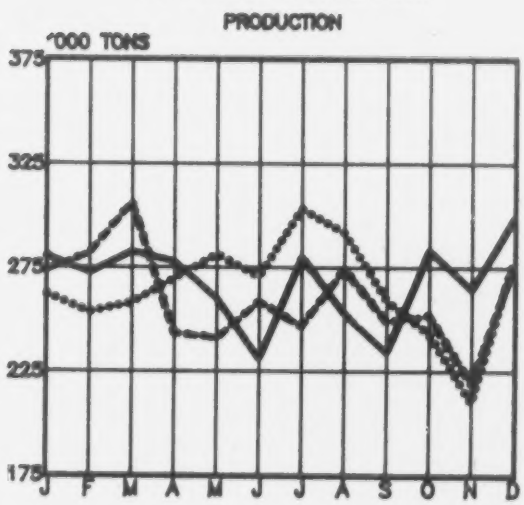

SOLID BLEACHED PAPERBOARD

PRODUCTION



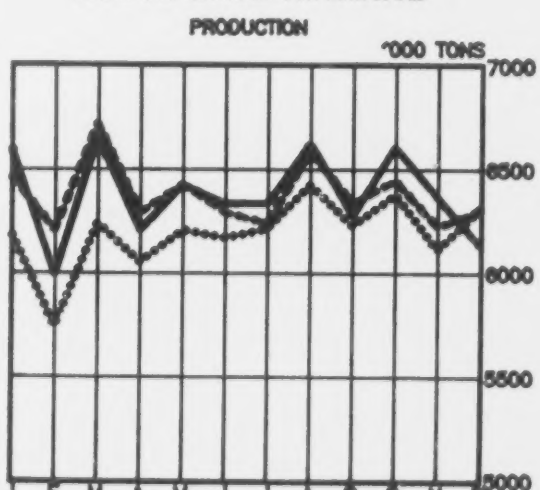

PAPERBOARD FOR EXPORT

PRODUCTION




TOTAL PAPER AND PAPERBOARD

PRODUCTION




1987 ••••••• 1988 -•-•-•- 1989 ——

## I M P O R T S *

| | | YEAR 1988 Tons | YEAR 1988 $000 | 1989 OCTOBER Tons | 1989 OCTOBER $000 | 1989 NOVEMBER Tons | 1989 NOVEMBER $000 | (1) Annual Rate YTD 1989 Tons | % Change from same Period Last Year |
|---|---|---|---|---|---|---|---|---|---|
| Pulpwood Roundwood (cords) | | 39,515 | 4,200 | 10,147 | 160 | 52,191 | 1,028 | 205,646 | 407.6 |
| Pulpwood Chips | | 888,636 | 35,553 | 50,451 | 1,823 | 55,576 | 1,533 | 834,601 | -3.7 |
| Total All Imports | A | 18,402,259 | 10,725,164 | 1,637,312 | 1,032,608 | 1,514,760 | 956,254 | 18,396,525 | -0.4 |
| Wood Pulp Total | A | 5,038,158 | 2,663,424 | 441,568 | 267,877 | 387,620 | 234,786 | 5,025,428 | -0.4 |
| Waste Paper | | 161,367 | 27,361 | 12,097 | 2,395 | 11,473 | 2,339 | 174,986 | 6.0 |
| Other Fibrous Materials | | 92,505 | 32,331 | 495 | 227 | 664 | 354 | 12,012 | -87.4 |
| Paper Board & Products Total | A | 13,110,229 | 8,002,047 | 1,183,152 | 762,109 | 1,115,003 | 718,775 | 13,184,099 | 0.2 |
| Paper Paperboard Wet Machine Bd. & Construction Paper & Board | A | 2,727,246 | 7,038,168 | 1,139,197 | 660,026 | 1,078,817 | 624,587 | 12,610,712 | -1.3 |
| Paper Ppbd & Prds ex Cnst&WMB | A | 12,787,784 | 7,893,637 | 1,167,773 | 758,161 | 1,099,945 | 714,430 | 12,986,373 | 1.2 |
| Paper & Paperboard Only | A | 12,404,801 | 6,929,757 | 1,123,818 | 656,078 | 1,063,759 | 620,243 | 12,412,985 | -0.2 |
| Paper Total | A | 12,063,790 | 6,799,044 | 1,076,871 | 632,628 | 1,023,120 | 599,997 | 11,871,929 | -1.8 |
| Newsprint | R A | 8,801,503 | 4,569,853 | 761,013 | 390,190 | 719,577 | 367,263 | 8,579,751 | N.C. |
| Printing & Writing | A | 2,859,530 | 1,948,906 | 266,309 | 192,252 | 251,666 | 184,836 | 2,766,378 | -4.5 |
| Uncoated Groundwood | R | 1,362,642 | 792,881 | 126,949 | 79,159 | 118,822 | 74,927 | 1,331,253 | N.C. |
| Coated Print.& Impreg. Pap. | A | 797,765 | 641,466 | 87,679 | 70,428 | 70,269 | 57,962 | 783,346 | -2.4 |
| Uncoated Free Sheet | A | 591,830 | 414,326 | 45,347 | 35,091 | 56,194 | 40,964 | 580,223 | -0.4 |
| Uncoated Book | A | 258,146 | 175,746 | N.L.R. | N.L.R. | N.L.R. | N.L.R. | N.L.R. | N.L.R. |
| Writing and Similar Paper | A | 333,683 | 238,580 | 45,347 | 35,091 | 56,194 | 40,964 | 580,223 | 77.6 |
| Thin (except Cigarette) | R | 55,774 | 48,804 | 1,056 | 1,203 | 1,276 | 1,714 | 12,413 | -78.3 |
| Bristols | RS | 51,549 | 51,430 | 5,279 | 6,291 | 5,106 | 6,270 | 59,143 | 18.1 |
| Total Pkg & Other Paper | | 343,196 | 231,796 | 38,842 | 40,293 | 40,262 | 40,226 | 404,654 | 15.5 |
| Unbleached Kraft Paper | | 161,708 | 76,116 | 22,410 | 10,647 | 22,585 | 11,000 | 238,007 | 42.2 |
| Other Pkg. & Indust. Paper | | 181,488 | 155,680 | 16,432 | 29,646 | 17,677 | 29,226 | 166,647 | -8.9 |
| Tissue | | 59,561 | 48,488 | 10,707 | 9,892 | 11,614 | 10,671 | 121,146 | 94.7 |
| Paperboard, Total | | 341,011 | 130,714 | 46,947 | 23,450 | 40,639 | 20,246 | 541,056 | 55.6 |
| Test or Containerboard | | 85,682 | 36,145 | 7,493 | 3,179 | 5,827 | 2,678 | 84,133 | -2.0 |
| Semi-Chemical Corrugating | | 142,490 | 43,596 | 8,478 | 2,456 | 6,875 | 1,983 | 119,590 | -19.2 |
| Other Paperboard | | 112,839 | 50,972 | 30,977 | 17,815 | 27,938 | 15,585 | 337,333 | 195.8 |
| Convtd Paper&Paperbd Products | | 382,983 | 963,880 | 43,955 | 102,084 | 36,186 | 94,187 | 573,388 | 48.5 |
| Paper Products, Total | RS | 345,817 | 895,813 | 36,348 | 87,901 | 29,305 | 79,939 | 479,117 | 37.3 |
| Paperboard Products, Total | | 37,166 | 68,067 | 7,608 | 14,182 | 6,881 | 14,248 | 94,270 | 153.1 |
| Wet machine Board | | 4,239 | 3,780 | 26 | 31 | 106 | 93 | 621 | -85.5 |
| Construction Paper & Board | | 318,206 | 104,630 | 15,352 | 3,917 | 14,952 | 4,251 | 197,105 | -40.0 |
| Notes | | | | | | | | | |
| Other: No Weight Avail. ($000) | | | 177,686 | | 14,825 | | 10,537 | 139,824 | -22.4 |
| Total Imports Incl. Other($000) | | | 10,902,850 | | 1,047,434 | | 966,791 | 11,575,836 | 6.1 |

NOTE: A - API shifted Import data from January 1989 to December 1988 to compensate for misallocation of reported data.
RS - 1988 data revised to conform with 1989 codes. R - API revised grade distribution for 1989.

## E X P O R T S

| | | | | | | | | (1) | |
|---|---|---|---|---|---|---|---|---|---|
| Pulpwood, Roundwood (cords) | | 15,470 | 894 | 5,342 | 359 | 5,317 | 699 | 146,031 | 767.3 |
| Pulpwood Chips | | 3,503,100 | 286,191 | 347,582 | 33,153 | 271,389 | 28,412 | 4,336,164 | 28.7 |
| Total All Exports | | 17,061,208 | 7,467,363 | 1,523,631 | 718,478 | 1,289,634 | 578,979 | 18,591,543 | 10.4 |
| Wood Pulp,Total | | 5,528,292 | 2,914,521 | 501,763 | 280,040 | 346,645 | 195,928 | 6,159,906 | 13.9 |
| Cotton Pulp and Other Pulp | | 201,569 | 111,923 | 11,032 | 9,831 | 8,251 | 6,989 | 118,800 | -39.7 |
| Waste and Old Paper | | 5,640,118 | 688,258 | 452,631 | 58,178 | 458,108 | 56,718 | 6,002,055 | 7.5 |
| Paper, Board & Products,Total | | 5,691,231 | 3,752,661 | 558,206 | 370,430 | 476,630 | 319,344 | 6,310,782 | 11.4 |
| Paper,Paperboard,Wet Machine Bd. & Construction Paper & Board | | 4,876,563 | 2,701,405 | 468,252 | 257,241 | 399,020 | 221,575 | 5,261,418 | 8.5 |
| Paper, Ppbd & Prod ex Cnst&WMB | | 5,559,356 | 3,683,601 | 554,491 | 368,949 | 474,949 | 318,550 | 6,275,044 | 13.5 |
| Paper & Paperboard, Only | | 4,744,688 | 2,632,346 | 464,537 | 255,760 | 397,338 | 220,780 | 5,225,679 | 10.8 |
| Paper, Total | | 1,402,490 | 988,031 | 120,490 | 101,379 | 114,054 | 90,422 | 1,483,624 | 36.2 |
| Newsprint | | 427,296 | 295,474 | 47,229 | 25,834 | 46,100 | 25,391 | 643,767 | 54.0 |
| Printing & Writing | | 287,208 | 313,047 | 43,134 | 43,219 | 41,349 | 37,205 | 476,407 | N.C. |
| Uncoated Groundwood | | 70,286 | 58,639 | 6,949 | 5,302 | 5,503 | 4,418 | 88,710 | 34.6 |
| Clay Coated Paper | | 97,464 | 79,731 | 14,679 | 12,754 | 14,770 | 12,237 | 167,960 | 69.8 |
| Uncoated Free Sheet | R | 82,660 | 124,049 | 12,270 | 16,521 | 13,478 | 13,580 | 117,973 | 42.3 |
| Other Printing & Writing | R | 36,799 | 50,629 | 9,236 | 8,641 | 7,598 | 6,970 | 101,765 | N.C. |
| Total Pkg. & Other Paper | | 346,718 | 342,117 | 28,507 | 30,001 | 25,617 | 26,202 | 342,267 | -0.7 |
| Unbleached Kraft | | 110,075 | 54,975 | 10,008 | 4,961 | 8,768 | 4,790 | 123,179 | 14.0 |
| Other Pkg. & Indust. Paper | | 236,643 | 287,142 | 18,500 | 25,041 | 16,849 | 21,412 | 219,088 | -7.5 |
| Tissue | | 41,268 | 37,393 | 1,619 | 2,325 | 985 | 1,624 | 21,182 | -51.1 |
| Paperboard, Total | | 3,642,198 | 1,644,314 | 344,048 | 154,382 | 283,287 | 130,358 | 3,742,056 | 3.2 |
| Solid Wood Pulp | | 3,359,078 | 1,511,057 | 326,098 | 145,931 | 267,632 | 122,802 | 3,549,987 | 6.1 |
| Total Linerboard | | 2,281,362 | 887,846 | 226,317 | 84,035 | 181,429 | 65,790 | 2,481,480 | 9.6 |
| Bleached Kraft Linerboard | | 140,801 | 73,728 | 27,540 | 12,425 | 24,514 | 10,843 | 278,544 | 113.3 |
| Unbleached Kraft Linerbd | | 2,140,562 | 814,119 | 198,777 | 71,610 | 156,915 | 54,946 | 2,202,937 | 3.3 |
| Other Unbleached Kraft | | 292,437 | 102,638 | 27,375 | 12,595 | 22,243 | 8,185 | 251,761 | -17.5 |
| Other Bleached Kraft | | 742,918 | 502,513 | 69,787 | 48,307 | 61,606 | 47,948 | 785,920 | 6.7 |
| Semi-Chemical Corrugating | | 42,360 | 18,060 | 2,618 | 994 | 2,355 | 879 | 30,826 | -26.6 |
| Recycled Paperboard | | 283,121 | 133,257 | 17,950 | 8,451 | 15,655 | 7,556 | 192,068 | -31.4 |
| Convtd Paper&Paperbd Products | | 814,668 | 1,051,256 | 89,954 | 113,189 | 77,611 | 97,770 | 1,049,364 | 29.1 |
| Paper Products, Total | R | 367,548 | 682,281 | 38,339 | 74,654 | 30,612 | 61,114 | 477,409 | 30.4 |
| Paperboard Products, Total | | 447,121 | 368,975 | 51,615 | 38,535 | 46,999 | 36,656 | 571,955 | 28.0 |
| Wet Machine Board | | 11,691 | 4,915 | 125 | 79 | 54 | 20 | 3,000 | -74.5 |
| Construction Paper & Board E | | 120,184 | 64,145 | 3,590 | 1,401 | 1,628 | 774 | 32,738 | -73.1 |
| Notes | | | | | | | | | |
| Other: No Weight Avail. ($000) | | | 9,170 | | 2,061 | | 2,144 | 23,864 | 160.3 |
| Total Exports Incl. Other($000) | | | 7,476,533 | | 720,539 | | 581,123 | 8,604,615 | 16.5 |

SOURCE: Bureau of Census, U.S. Department of Commerce. E - Incl. estim. of tonnage based on square foot data.
(1) Annual Rate Year-To-Date is in tons unless otherwise specified in item description. N.L.R. - No longer reported.
* 1989 Import/Export data based on Harmonized System codes. Detail may not always be comparable to 1988. N.C. - Not Comparable
R - API revised grade distribution for 1989.

## PRODUCER PRICE INDEXES
1982 = 100

| | 1987 | 1988 | SEPTEMBER 1989 | OCTOBER 1989 | NOVEMBER 1989 | DECEMBER 1989 | Annual Rate Y-T-D 1989 | % Change from same Period Last Year |
|---|---|---|---|---|---|---|---|---|
| Pulp, Paper and Products except Building Grades | 114.3 | 124.8 | 132.9 | 133.6 | 133.6 | 133.5 | 132.5 | 6.1 |
| Pulp Paper & Products, ex. Building Grades & ex Waste Paper * | 113.2 | 123.8 | 132.4 | 133.2 | 133.3 | 133.2 | 132.0 | 6.7 |
| Total Wood Pulp | 111.5 | 136.7 | 159.5 | 160.8 | 160.6 | 159.9 | 157.5 | 15.2 |
| Total Paper | 111.5 | 123.2 | 129.1 | 128.6 | 128.2 | 128.2 | 129.6 | 5.2 |
| Total Paper, exc. Newsprint | 110.6 | 123.4 | 129.9 | 129.3 | 128.8 | 128.7 | 130.6 | 5.9 |
| Newsprint | 112.3 | 127.6 | 120.1 | 118.8 | 118.6 | 117.8 | 122.3 | -4.1 |
| Total Paperboard | 118.1 | 133.2 | 140.3 | 140.0 | 139.7 | 139.6 | 140.1 | 5.2 |
| Total Paper and Paperboard * | 113.6 | 126.4 | 132.6 | 132.2 | 131.8 | 131.8 | 132.9 | 5.2 |
| Converted Products | 114.7 | 123.0 | 132.4 | 134.0 | 134.5 | 134.5 | 131.7 | 7.1 |
| Waste Paper | 181.4 | 183.6 | 160.1 | 158.3 | 152.5 | 151.4 | 157.1 | -14.4 |
| All Commodities | 102.8 | 106.9 | 111.3 | 111.7 | 111.7 | 111.3 | 111.2 | 4.9 |
| Industrial Commodities | 102.6 | 106.3 | 111.9 | 112.4 | 112.2 | 112.3 | 111.6 | 5.0 |

SOURCE: Producer Price Indexes: Bureau of Labor Statistics, U.S. Department of Labor * Computed by API

## Paper and Allied Products Companies

### Sales and Earnings

| | Sales | | | Net Profit After Taxes | | | Net Profits / Sales | |
|---|---|---|---|---|---|---|---|---|
| | 1989 | 1988 | 89/88 | 1989 | 1988 | 89/88 | 1989 | 1988 |
| | (Thousand Dollars) | | % | (Thousand Dollars) | | % | % | % |
| | | | 19 Paper and Allied Products Companies | | | | | |
| First Quarter | 14,817,485 | 13,463,955 | 10.1 | 1,188,878 | 998,916 | 19.0 | 8.02 | 7.42 |
| Second Quarter | 15,569,108 | 13,923,480 | 11.8 | 1,212,779 | 1,103,917 | 9.9 | 7.79 | 7.93 |
| Third Quarter | 15,320,263 | 14,209,642 | 7.8 | 1,232,333 | 1,323,748 | -6.9 | 8.04 | 9.32 |
| Fourth Quarter | 15,383,829 | 14,637,836 | 5.1 | 1,060,154 | 1,178,891 | -10.1 | 6.89 | 8.05 |
| Year-to-date | 61,090,685 | 56,234,913 | 8.6 | 4,694,144 | 4,605,472 | 1.9 | 7.68 | 8.19 |
| | | | 3 Forest Product Companies | | | | | |
| First Quarter | 3,061,503 | 2,644,731 | 15.8 | 203,337 | 142,257 | 42.9 | 6.64 | 5.38 |
| Second Quarter | 3,327,657 | 3,014,155 | 10.4 | 231,555 | 163,859 | 41.3 | 6.96 | 5.44 |
| Third Quarter | 3,318,176 | 3,007,214 | 10.3 | 242,724 | 159,279 | 52.4 | 7.31 | 5.30 |
| Fourth Quarter | 3,091,922 | 3,157,280 | -2.1 | 219,621 | 168,749 | 30.1 | 7.10 | 5.34 |
| Year-to-date | 12,799,258 | 11,823,380 | 8.3 | 897,237 | 634,144 | 41.5 | 7.01 | 5.36 |

tons. The U.S. is now virtually tied with Canada in exports to Japan. U.S. shipments to the domestic market declined 8% from 1988 to 1989, probably reflecting the decline in printing-writing paper production.

## SALES AND EARNINGS

Sales of paper and allied products companies in the fourth quarter of 1989, as estimated from data reported for 19 companies, held close to their third quarter 1989 level, reflecting the corresponding trend in paper and paperboard production. Relative to their year-ago performance, however, sales showed a 5% gain.

After-tax profits for these companies dropped 14% from their third quarter total and 10% from their fourth quarter 1988 level. Even at this lower level, the ratio of after-tax profits to sales was 6.9%, a relatively high level by historic standards.

These data indicate a relatively strong performance for 1989 as a whole. The totals suggest that sales rose by 8.6% from 1988 to 1989, after-tax profits rose 2%, and the ratio of net profits to sales was a near-record high of 7.7%.

The table on page 10 presents the available data. These figures should be considered preliminary, in that there are 27 companies in the full complement of reporting companies, and these companies generally show slightly stronger sales and earnings trends than are reported by the Department of Commerce for the total paper and allied products industry.

## PAPER RECYCLING TRENDS

Preliminary data indicate that U.S. collection of waste paper increased 5.4% in 1989 -- a particularly impressive performance given that paper and paper board new supply dipped 0.7% last year, while domestic production rose only fractionally. Waste paper collection advanced 6.7% in 1987 and 8.9% in 1988, both of which were strong growth years for the paper and allied products industry.

Consumption of waste paper stock by the paper industry increased an estimated 5% in 1989, which lifted the domestic consumption rate for recyclable paper to 26.4% from 25.2% in 1988. The domestic consumption rate (defined as consumption of waste paper as a percentage of paper and paperboard production) has trended strongly upwards since 1985 when it stood at 23.8%. Moreover, API's 1989 Capacity Survey reports that the paper industry will derive an increasing percentage of its fiber needs from waste paper in the future. The Survey indicates that waste paper consumption in U.S. paper and paperboard mills will climb at an average annual rate of 6.2% a year in the 1990-1992 period, while wood pulp consumption is projected to rise 2.9% a year.

Old corrugated accounts for nearly half of U.S. waste paper consumption; in 1989 domestic usage of this grade rose 6.1% to 10.5 million tons. Some 94% of old corrugated is used to produce paperboard -- recycled, unbleached kraft, and semichemical. The remainder goes into tissue and construction paper and board.

Domestic consumption of old newspapers rose 3.6% in 1989 to 3.85 million tons. Approximately 45% of this grade is used to make newsprint, while 40% is consumed by recycled paperboard mills. U.S. consumption of pulp substitutes rose 3.1% in 1989 to 2.98 million tons, while domestic consumption of high grade deinking papers also rose 3.1%, to 1.7 million tons. Important end uses for the high grades are tissue papers, printing-writing papers and recycled boxboard. Consumption of mixed waste papers by U.S. mills edged up 1.3% last year. Mixed papers are a source of fiber for recycled paperboard and construction papers and board.

The recovery rate for waste paper (waste paper collection as a percent of new supply of paper and paperboard) advanced to an estimated 32.6% in 1989, from 30.7% the previous year, continuing the strong pattern of advance that has been evident since 1986.

The 5.4% increase in waste paper consumption estimated to have taken place in 1989 derived from a 4.4% gain in domestic demand and a 7.5% increase in exports. Exports of old corrugated, the largest U.S. waste paper export category, is estimated to have increased 21.5% last year, to 272,000 tons. On the other hand, exports of high grade deinking papers were off some 12%, perhaps as a result of strong domestic demand for the high grades.

Commerce Department data suggest that total 1989 exports of waste paper will come in at about 6.1 million tons. However, the government figures are known to understate waste paper exports to Canada by almost a 1/2-million tons, suggesting that the actual 1989 level was about 6.5 million tons.